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## **Demands for Service under Health Insurance**

### **DALHOUSIE SURVEY**

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#### **I**

**I**N the last few years discussions on the reform of health services have become the battleground of conflicting social and political philosophies. Disputes about "isms" have hampered an unprejudiced examination of the underlying facts. It has not been sufficiently recognized that the issues involved can be clarified to a considerable extent by scientific research. An age which has so greatly enhanced human welfare by intensified medical research has devoted but scant attention to research in health care.

This article is concerned with an important phase of the problem, namely with the question: What changes in the demand for health services might be anticipated, if the present system of health care should be replaced by a prepayment plan such as health insurance? The public is inclined to look at the problem as one of redistribution of available resources; it is assumed that present facilities for health care would be better utilized with due emphasis on the satisfaction of social needs. The probable costs of health insurance, for instance, are computed by estimating and adding up the outlay in a given year for treatment by physicians, surgeons and specialists, for hospital care, public health services, drugs and so on. Some allowance may be made for improvement of service, but that is all.

Such an approach, however, reveals only part of the picture. Abolition of the fee-for-service system removes one of the chief factors regulating the demand for health care. Under the conditions now prevailing in the United States and Canada the availability of health services with their cost is, for the majority of

the population, contingent upon ability to pay for them, though the rigidity of this principle is mitigated by organized charity—mainly exercised by the medical profession—and by government intervention in the form of increased public health services and hospital care for indigents. Under a prepayment plan such as health insurance, however, economic considerations no longer will motivate patients' behaviour. Insured persons will demand medical care whenever they feel that it will benefit them. They are, on the other hand, liable to pay their contributions—be it in the form of premiums to the insurance fund, or through taxes—whether or not they make use of the services available to them.

How will the demand react to this new set of conditions? They are so fundamental that they are bound to bring about considerable changes. An illustration from a related field may show what is meant. Let us assume that in an isolated community the present system of food supply was abolished and that every citizen in return for paying a uniform fee was entitled to demand all the food he wanted. The result would be that some, especially those with insufficient income, would consume more than in the past. Others would turn to a more varied or a more expensive diet. Some would eat too much and be harmed, while many others would stick to their old eating habits. Changes would be greatest in the first few years after this new system had been introduced. Later the demand would fall off, and finally a state of equilibrium would be established again, probably on a higher level. Somewhat more food would be consumed. It might also be of a different type and of higher quality. The final results would mainly depend upon the state of education prevailing in the community.

A situation of similar complexity will develop if health care should be provided which is not paid for on a fee-for-service basis. Changes may be even more marked as the demand for health services is probably of greater elasticity than the demand for food. Economic and psychological factors about which very little is known will come into operation. Removal of the economic barrier between doctor and patient will make available to the low-income groups a larger share in the provisions for health care than ever before. It is probable that many illnesses which had to go untreated will get proper attention and that treatment will start at an earlier date than before. It may also be expected that more emphasis will be put on preventive services—out of social considerations as well as because the outlay for the treatment of illness is thereby reduced. But it is likely also that the beneficiaries of the new system will seek medical advice for ailments which hitherto had been cared for in a satisfactory manner by the simple remedies which the home offers. An excessive demand for drugs may make itself felt. Hospital space may be requested for persons who could very well be treated as hospital out-patients. Nor is it even certain that the new demand will come mainly from those who in the past could not afford adequate medical care. European experience has shown that even under an old established system of health insurance the demand for health services is proportionate to the level of income: it is smallest in the region of low wages (1).

All these factors have to be considered when the foundations for a national system of health insurance are being laid. They are, of course, decisive for the cost of the scheme. But the evaluation of the potential demand will also have a

bearing on the type of services to be offered, on the form of organization and administration, on the choice of the machinery for assessing and levying contributions, and finally on the methods used for making the beneficiaries of the scheme conscious of their responsibilities. Consideration has also to be given to the repercussions on the supply side. How many doctors will be needed? Are existing hospital facilities sufficient to meet the new demand?

## II

Answers to some of these questions might be found if conditions of medical care under a scheme of health insurance were compared with those prevailing under the present-day fee-for-service system. On this assumption, the Institute of Public Affairs at Dalhousie University, Halifax, Nova Scotia, in co-operation with the Dalhousie Medical School and assisted by grants from the Rockefeller Foundation, conducted shortly before the war surveys of morbidity and medical care in two representative communities: the one a coastal town—Glace Bay—where a system of health insurance for miners and their families was operated; the other—Yarmouth—also a coastal town where medical care was rendered on the conventional basis.

In existence for about eighty years, the health insurance scheme covers wage earners, mainly miners, as well as their dependents, altogether about 50,000 persons. They are entitled to treatment by general practitioners, operations, hospitalization, drugs and dressings. The wage earner is entitled also to certain cash benefits. A panel system similar to the British scheme with free choice of doctors is established. Special contributions are levied for panel doctors, hospitals and for benefits societies providing cash benefits.

For the purposes of the survey a sample of 13,500 persons was selected in the insurance area, the number representing the panel of several insurance doctors. The survey group served under the fee-for-service system—comprising the whole population of the town of Yarmouth—numbered 7,500 persons.

The two areas were studied for twelve consecutive months, between December 1, 1937 and July 1, 1939. All illness and ailments which received medical attention were tabulated as well as the type of care given. The data were supplied by the doctors, who were given clerical assistance.

Certain results of the survey were published previously (2). These are briefly summarized below, as they are essential for a proper evaluation of the survey findings on causes of illness.

The survey revealed that health insurance is likely to bring about a marked rise in the demand for health care. In the health insurance group 717 cases of illness per 1,000 population received medical attention in the course of a year, compared with 486 under the fee-for-service system, a difference of 48 per cent in the rate of demand. In this comparison miners, who accounted for 20 per cent of the insured persons, are not considered. If they are included, the sample of insured persons was found to have 75 per cent more doctor's calls than the uninsured group. The difference is greatest in the case of children. Children lacking insurance protection received in the age group up to five years only about half, in the age group from five to fifteen only about a third of the medical care which children of the same ages enjoy under health insurance. It was further found that families with many children suffered most from the lack of a health insurance plan.

The survey probed into the different types of illness which cause people to seek medical attention under the two systems. It revealed that the removal of economic restraints which characterizes health insurance prompts patients not only to seek medical advice oftener than under the present-day system, but also

for other causes of illness. The rate of incidence of illness per 1,000 population, broken down by diagnosis, and grouped according to the broad Classifications of the International List of Causes of Death, is shown in Table I.

TABLE I  
INCIDENCE OF ILLNESS BY CAUSE  
Rate per 1,000 population

Diagnosis Class	Insurance Area		Fee-for-service area Total
	Miners	Others	
1. Infectious	96	101	71
2. Cancer	6	4	4
3. Rheumatic	83	24	21
4. Blood		3	11
5. Chronic Poisoning	8	1	1
6. Nervous	119	56	75
7. Circulatory	30	19	32
8. Respiratory	123	92	54
9. Digestive	173	151	64
10. Genito-urinary	19	31	34
11. Puerperal		44	21
12. Skin	156	85	42
13. Bones	7	4	5
17. Accidents	378	87	45
*18. Ill-defined and other	8	17	6
All causes	1207	717	486

\*Classes 14 to 16 of the International List have been combined with Class 18 as they contained only a very few cases.

Through the technique used in the survey it was possible to measure frequency of doctors' calls—patients' calls at the doctor's office, and doctors' calls

TABLE II  
CALL RATES BY DIAGNOSTIC GROUPS

Diagnosis Class	Calls per 1000 population		Calls per illness	
	Insurance area	Fee-for-service area	Insurance area	Fee-for service area
1. Infectious	343	244	3.4	3.4
2. Cancer	28	12	6.2	2.8
3. Rheumatic	98	79	2.8	3.8
4. Blood	10	33	4.5	2.9
5. Chronic Poisoning	4	4	2.1	3.0
6. Nervous	183	170	2.7	2.3
7. Circulatory	124	130	5.8	4.1
8. Respiratory	270	123	2.8	2.3
9. Digestive	395	144	2.5	2.2
10. Genito-urinary	89	110	3.1	3.2
11. Puerperal	149	76	4.2	3.6
12. Skin	266	97	2.7	2.3
13. Bones	13	12	2.6	2.3
17. Accidents	393	125	2.8	2.8
*18. Ill-defined and other	43	14	2.8	2.3
All causes	2409	1373	3.0	2.8

\*Classes 14 to 16 of the International List have been combined with Class 18 as they contained only very few cases.



in patients' homes—made for different types of illness. The results are shown in Table II.

When the tables are examined the following conclusions suggest themselves.

1. The incidence rate of illness, which in the survey meant *medically attended illness*, is influenced not only by the system of medical care but also by a person's occupation: miners in the insurance area were treated for most illnesses more frequently than others of their group. The findings of the survey furnish in that respect interesting material for research into the industrial morbidity of miners.

It is evident from Table I that even when miners are disregarded, the incidence rate of attended illness is much higher among the insured persons. That does not necessarily mean that they are less healthy than persons of the uninsured group, but rather that more of their illnesses have the care of a physician.

2. Call rates depend in the first place upon the incidence rate of the illness, a factor illustrated in Table I. Both the character and duration of the illness are other important determinants. Indigestion is a very common illness but does not require many medical calls. Diseases of the heart are much less frequent, but, when they occur, need far more medical attention.

3. If medical calls by diagnostic groups are compared in the two areas on the basis of 1,000 population, the two sets of figures show in some respects marked differences and in others a surprising similarity. The number of calls per 1,000 population in the insurance area are much higher for the majority of classes as the figures reflect to some extent the incidence rate of illness coming to the attention of the physician. In the insurance area calls per 1,000 people for illnesses of the digestive system are highest; in the non-insured area, for infectious diseases.

Friends and foes will draw their own conclusions from the figures presented. The one may think the call rates for colds and indigestion excessive. Others will deny this assertion. They will point out that organized health groups have for many years endeavoured to educate the public to call a physician at an early date rather than to wait until sickness has taken a firm hold or reaches an advanced stage. They will further find their faith in health insurance confirmed by other results of the survey, by the fact that insured women affected by puerperal conditions see the doctor twice as often as uninsured women, and that the call rate for infectious diseases is a third higher under insurance.

For only three groups—illness of the circulatory, genito-urinary and blood systems—is the call rate under the present-day system higher than under health insurance. The illnesses in question are mostly of a type which in larger cities would receive treatment by specialists, and the higher rates in the area of the fee-for-service system may be explained by the fact that some of the practitioners, though not strictly specialists, were known to the public for their special skill in cases of this type.

4. If the number of calls per given case of illness are compared, there is a remarkable similarity between the two areas. The insurance doctor, in spite of his greater case load, sees his patient in the event of an illness as often as the

free practitioner. The contention that under health insurance the doctor will not bestow enough attention upon the individual case is not borne out by the findings of the survey.

### III

The Dalhousie survey also afforded an opportunity to investigate the use of drugs under a system of health insurance. The matter has so far received but scant attention in literature on the reform of our health services which is mainly concerned with the services of physicians and the use of hospitals.

There is no justification for this attitude. Drugs take, according to the Committee on the Costs of Medical Care (3), second place in the health budget of families with an income of less than \$2,000.\* The total expenditure for medicine was, according to the same source (4), estimated at \$5.47 per head of the population of the United States in 1929. The smaller the family income the larger is the proportion of drugs on the health bill, for a poor family will buy medicine in the drugstore in cases where the more well-to-do will consult the doctor.

But even medical care of illness does not seem to reduce greatly the use of medicine. It is stated in another study of the Committee (5) that the quantity of drugs consumed by the American people is far in excess of the amount required for good medical care. "The popular belief in the curative virtue of medicines and the patient's insistence 'to take something' may make it appear advisable to the physicians to prescribe medicines for their psychological value."

If patients have a tendency to make an excessive use of drugs, which must be bought at their own expense, it is obvious that under a system of prepayment such as health insurance, which does away with special charges for services in the course of illness, provision of drugs will pose difficult financial and administrative problems. The British system of health insurance includes drugs among its statutory benefits but a complicated system of regulations has been developed in order to protect the insurance fund from unwarranted claims. They have proven to be indispensable, though they are equally disliked by doctors and patients (6). However, provision of drugs has become such an integral part of the British system of health care that the feature has been maintained in the new British Health Service Act. In New Zealand, where the British model has been followed in the Dominion's Social Security Act, provision of free drugs has caused considerable trouble and financial embarrassment.†

Anticipating such difficulties the draft Health Insurance Bill of the Dominion of Canada, while giving to the insured person the right to "sufficient drugs, medicines, materials and appliances", provides for proper safeguards, among other things pricing by a central board for the whole province and in accordance with specific regulations. Procedure in the United States has been even more cautious. Under the provisions of the Wagner-Murray-Dingell Bill, insured persons would have to pay for their own drugs, exception being made

\*This does not apply to families with less than \$1200 income. For them the expenditure for hospital care was 0.1 per cent higher than the expenditure for medicine.

†Information obtained by the writer from New Zealand.

only in the case of expensive medications such as Insulin. If these provisions should be adopted by Congress, important differences in the health insurance schemes operated in the British Commonwealth of Nations and the United States would result.

In order to form an opinion as to the merits of the different plans for providing drugs under a prepayment system, an attempt was made in the Dalhousie study to evaluate the demand for drugs in the survey area. Under the rules of the insurance plan, patients as previously indicated are entitled to receive drugs and dressings. These are furnished by the panel doctors without cost to the patients when dispensed, but have to be bought in the drugstore by the patient when prescribed.

In the area of the fee-for-service system the usual rules for prescribing and dispensing drugs in private practice were observed. Sometimes the cost of the drug would be included in the doctor's fees; sometimes, especially in the case of an expensive drug, a special charge was made.

Dispensing rather than prescribing drugs and dressings proved to be the prevailing method in both areas but prescriptions are relatively far more frequent under the present-day system than under health insurance. They account for one-third of all the drugs used by patients under the fee-for-service system, but for only one-quarter among insured persons.

The insured group had more than twice as many drugs dispensed and prescribed to them as to the population in the other area.

As in the case of morbidity rates, the plan of the study provided for an enquiry into the causes of illness which lead to the use of drugs and dressings. The findings are shown in Table III, grouped again according to the broad classifications of the International List of Causes of Death.

TABLE III  
DRUG AND DRESSING RATES BY CAUSE OF ILLNESS

Diagnosis Class	Rate per 1,000 population		Rate per illness	
	Insurance area	Fee-for-service area	Insurance area	Fee-for-service area
1. Infectious	259	140	2.6	2.0
2. Cancer	16	5	3.4	1.1
3. Rheumatic	85	38	2.4	1.8
4. Blood	9	30	4.0	2.6
5. Chronic poisoning	3	2	1.6	2.0
6. Nervous	136	67	2.0	0.9
7. Circulatory	90	79	4.2	2.5
8. Respiratory	234	80	2.4	1.5
9. Digestive	268	89	1.7	1.4
10. Genito-urinary	71	56	2.5	1.6
11. Puerperal	62	15	1.7	0.7
12. Skin	266	70	2.7	1.7
13. Bones	8	4	1.6	0.8
17. Accidents	319	74	2.2	1.6
*18. Ill-defined & other	36	9	2.4	1.6
All causes 1861		758	2.3	1.6

\*Classes 14 to 16 of the International List have been combined with Class 18 as they contained only a very few cases.

Apart from accidents, the illnesses mainly responsible for the use of drugs by panel doctors are those of the digestive system (268 per 1,000 population), skin (266 per 1,000), infectious diseases (259), and diseases of the respiratory

system (234). The sequence corresponds fairly well with the order of frequency of calls, where, as has been shown in Table II, digestive troubles get most of the calls (395 per 1,000) and infectious diseases have a call rate of 343 per 1,000 population, followed by diseases of the respiratory system (270).

Under the fee-for-service system the most frequent use is made of drugs in the treatment of infectious diseases, digestive and respiratory troubles following some distance behind. It is noteworthy that the same three groups take a position of similar prominence on the list in the insurance area. Irrespective of the system of medical care, they appear to be the illnesses requiring most drugs, though the quantities used are very much greater under health insurance.

The use of drugs per case of illness is higher under insurance for almost all types of illness. Heading the list are illnesses of the circulatory system which require 4.2 drugs per case compared with 2.5 in the other area. For diseases of the nerves and sense organs and for puerperal conditions the insurance doctor needed twice as much medicine as the free practitioner. While a somewhat similar practice prevailed in both areas for giving medicine for digestive troubles (1.7 compared with 1.4), respiratory diseases were treated by the panel doctor with 2.4 drugs per illness compared with 1.5 by the free practitioner, genito-urinary illness with 2.5 as against 1.6, and rheumatism with 2.4 drugs per illness against 1.8 drugs.

A method of dispensing and prescribing drugs which was frequently used in the insurance area has not been discussed in this article (7). Under the rules of the insurance fund the custom had developed to dispense free drugs also to members of an insured person's family whom the physician did not see in person but whose "complaints" had been reported to him, usually by another member of the household. These "complaint" cases nearly always led to dispensation of drugs. Similar customs exist in the practice of medicine in many rural areas, also under the fee-for-service system. They will require careful watching, since they are a possible source of abuse whenever prepayment plans are being devised.

#### IV

What causes the increased demand for medical services and for drugs in the health insurance area? Seeking an answer to this question, it has to be remembered that the Dalhousie survey was a quantitative study which made no claim to ascertain the necessity for or the quality of services rendered. In an evaluation of the survey due consideration was therefore to be given to the factors which have influenced quantitative results.

It may be useful to resort to a method of elimination. The higher call and drug rates are not due, primarily, to a more unfavourable economic situation among the insured group. In that respect both regions were very similar; prosperity was only slightly higher in the fee-for-service area. There were no marked differences between the two areas in racial background, age composition, family size or educational standards, nor in the use of hospital facilities, while variations in the vocational set-up—due to the preponderance of miners among the insured persons—was taken care of by separate tabulation. Nor can the greater demand in the insurance area be blamed on the patient's "curiosity" to find out

the extent of his privileges. As the system had been in operation more than three generations the point of saturation had been reached long ago.

Having thus narrowed down the field there remains but one factor to explain the differences in the demand level: the system of medical care prevailing in the two areas. The contrast, in that respect, could hardly have been more marked. Insurance and fee-for-service systems were, at the time of the survey, operated in their purest forms without dilution or compromise. There were no Blue Cross schemes or similar devices to be found in the fee-for-service area. The insurance plan, on the other hand, was not subject to any limitations or controls, which characterize voluntary prepayment plans in this country. Patients could see the doctor whenever they liked, remain under his care irrespective of duration of illness, and get drugs dispensed without additional payment. Physicians were enjoying corresponding freedom to arrange their services. Neither the medical association nor the labour unions, among which doctors' fees were agreed upon, nor the mining corporation which deducted these fees from the pay checks, had any say in the operation of the plan. Nor did the provincial government exercise any control, although it had guaranteed by special statutory provision some forty years ago to the miners the freedom of choosing their doctor.

It is against this background that the findings of the Dalhousie survey have to be examined. In the fee-for-service area, health care is controlled by economic factors; the need for medical services leads to an effective demand only in so far as the patient can afford to pay for them. In the other area such controls are altogether absent. Need, whether objective or imaginary, is translated into effective demand.

In most prepayment plans operated in the United States and Canada a variety of devices have been used to restrict patients' demands, and to limit the responsibility of physicians. From the findings of the Dalhousie survey it seems probable that the lack of such controls has some influence on the high drug rate of insured persons, especially in the younger age groups who are not often ill and want something tangible in return for their contributions.

Less clear is the picture in the case of medical services. It would be difficult to say to what extent differences in call rates are due to "unmet needs" under the fee-for-service system or result from absence of controls in the insurance plan. Generalizations would be dangerous. An answer can only be attempted by breaking down the figures and examining separately rates for certain age groups or types of illness. When by that method it is found, for instance, that insured children between five and fifteen years of age get three times as much medical attention as children of the same age lacking insurance protection, then it seems likely that those under the fee-for-service system are not sufficiently provided for. The high call rate in cases of digestive and respiratory illnesses, may, on the other hand, be in part influenced by the absence of controls, especially when treatment was confined to the dispensation of drugs.

The use of controls in prepayment plans is a field which is as important as it is unexplored. Such controls have a bearing not only on the finances of the insurance fund but also on the size and composition of the doctor's case

load. To what extent controls are called for and how they can be used without impairing the effectiveness of the health program is a question that will be determined by medical as well as by economic and sociological considerations. Standards of education and social responsibility will also play a major part. (A prepayment plan serving clergymen could well afford to be more liberal than a scheme designed for seasonal workers.) Likewise health insurance operating in a rural area (8) will probably need fewer safeguards than when introduced in an industrial region. In the light of these considerations it seems desirable to decentralize the administration of health insurance plans to a considerable extent so that their operation can be readily adapted to the environment in which they have to function. It is on the local level that decisions pertaining to the use and the type of controls can best be arrived at. These problems constitute a wide and interesting field for further research.

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## Professional Training for Public Health

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PUBLIC health demands sound training of its personnel. This statement appears to be the natural corollary to the concept of public health as an independent profession. So long as public health could be considered the mere application of a few simple medical or engineering principles, one could seriously question the need for special public health training and might defend the concept that any good physician or engineer might properly assume a position of major public health responsibility on the basis of his prior professional competence and without acquiring any additional proficiency or knowledge. Today, however, public health has become so technical and so complicated that it is more and more demanding of its staff the acquisition of specialized professional knowledge superimposed upon pre-existing professional training. The days are fast disappearing when a mere expression of interest and good intent will convert the physician to a health officer, the engineer to a public health engineer, the nurse to a public health nurse. As a profession, we are undergoing the same process of maturity which within the field of medical practice is compelling the physician to seek specific graduate training before proclaiming himself a specialist. Just as it is to be hoped that the time is not far distant when the surgeon will base his claim to the title through specialized training and demonstrated efficiency rather than mere willingness to cut, so it is to be hoped that the health worker will have become such through comparable training rather than through a sudden overnight shift of interest and intent.

If we accept this concept of public health as a specialized profession for which specific training is essential, it is logical that we shall inquire as to the type of individual who is to be trained, the subject matter to be taught and the conditions under which this instruction is to be given. This is not the first time this subject has been examined, for we have already had about a generation of experience with various types of professional public health training; nor is it the last, for even if we were to arrive at any general agreement today, we should find that the rapid evolution of public health would render these decisions out of date tomorrow. A few principles can, however, be accepted or at least defended.

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In the first place, public health draws upon a wide variety of disciplines. It derives certain principles from the field of biology, others from the physical sciences, others from the social sciences. If we can think of public health as an organized community program designed to prolong efficient human life, then it must obviously pay attention to all the forces that act favorably or unfavorably upon man, whether these forces be biological, physical, sociologic, political, economic, psychological or of any other nature. Public health represents a meeting-point for these forces, all of which are centered upon the object of our interest, namely, the public.

Because of this wide diversity of factors which may influence the health of the public, certain critics have advanced the idea that public health is not a discipline worthy of independent recognition inasmuch as they believe it to have no basic principles distinct from those of other fields of knowledge. This argument would be correct if we were also to agree that engineering is not worthy of independent stature as it is merely the application of the principles of mathematics and physics, and that political science, economics and sociology were to be relegated to the position of mass application of basic psychologic phenomena. If we accord separate recognition to engineering, to economics and to political science, I believe we can equally accord such recognition to public health, even though we may stress its dependence upon many other disciplines.

The second fundamental principle is the corollary of the first. Since public health taps so many sources of knowledge, the profession of public health must draw its staff from many other fundamental professions. It requires the services of physicians, engineers, nurses, educators, chemists, bacteriologists, nutritionists, biologists, statisticians, as well as many others; we are coming today face to face with the fact that the medical economists must also be added to this group. Each of these individuals brings to the field of public health a distinctive background of professional competence as well as a definite point of view. The field is enriched because of the diversity of these backgrounds and points of view. Public health is the focal point upon which the skills are directed.

It follows that the aim of professional public health training should be to superimpose upon these diversified backgrounds certain added knowledge that is essential to enable these workers to use their skills to the maximum degree in the community program. The physician is given that extra training to enable him to be a public health physician, the engineer to become a public health engineer, the nurse to become a public health nurse. Each retains his or her original identity but acquires the status of a specialist in the application of his basic skills to the problems of community health protection.

It must not be overlooked, however, that these specialists are to work as a team for a common purpose. The physician cannot take his program aside and develop it without relationship to that of the engineer or nurse; neither of these can ignore the medical program. The time has passed—if it ever really existed—when each specialist could go his own way unaware of or disregarding the problems or contributions of his colleagues. I would not deny that many of us have worked at times in such water-tight compartments,

but I doubt if there is anyone of experience in public health who would defend this type of segregation. The principle of teamwork is so well established that it needs no defence or explanation. Yet it is surprising to find that this same principle has been carried so little into the field of professional public health training.

If one examines the present-day facilities for such training, one cannot fail to realize that most of the professional public health workers have been trained in such segregation. Certain schools of public health limit their activities to medical health officers. The public health engineer may receive his special instruction within a school of public health or within an engineering school which has little or no connection with a school of public health. Certain champions of professional isolationism have even defended the concept that the engineer should be a sanitary engineer in contradistinction to a public health engineer and that in his training he has no need for instruction outside of the field of strictly engineering courses. All but three or four of our courses in public health nursing are in universities offering no other type of professional instruction in public health; conversely only one of our schools of public health insists that health officers, engineers and other public health personnel shall receive formal instruction in public health nursing, despite the fact that these nurses are the most numerous of the professional staff and the nursing program requires 35-40 per cent of the health department budget. Health education is almost an orphan child, accepted as a responsibility by only half of our schools of public health and viewed by some as an unwanted relative of somewhat debatable and shady ancestry.

In spite of this extreme isolationism that today characterizes our professional public health training, we are all aware of the fact that the modern health department is staffed with a variety of professional personnel who must work together as a team. And if this team is to be efficient, it must function harmoniously. The health officer, the engineer, the nurse, the educator must each have an understanding of each other's thinking and point of view if this team is to operate smoothly. It is as absurd and unrealistic to think of the medical, engineering and nursing programs as separate entities as it is to think of nursing programs still broken down into distinct services employing separate personnel for communicable diseases, tuberculosis, venereal diseases, maternity, infant, preschool, school and bedside services respectively. Just as we have seen generalized nursing replacing the old specialized type of nursing program so we are seeing today a disappearance of the philosophy that divides up the public health problems into a series of unrelated specialties having only speaking acquaintance with each other. It has been often said that the family is the unit of public health. If this be true, it is self-evident that it cannot be subdivided into unrelated problems on the basis of professional interests. In a group of this character it is unnecessary to belabor the point that public health is a cooperative enterprise. The point is stressed only to add emphasis to the need for cooperative training in contradistinction to educational isolationism.

Yet in these days when we are so worried about the threat of international political isolationism, it seems strange that within the narrow confines of our

own profession we should be faced with the same threat. As nations we have stressed the fact that the highest degree of international cooperation will be achieved only when we understand the problems and points of view of other nations. We consider it sound pedagogy to teach our youth as much as we can of the mores of other people and we firmly believe that by so doing we may in some way promote better harmony between nations through reducing the friction that results from misunderstanding. Is it not equally sound that we should expect that public health workers who are to take their place in a rather diversified and complex professional team should have some understanding and appreciation of each other's backgrounds, problems and points of view so that there may be a better understanding of what each is doing, why he is doing it and how the respective programs interlock with one another?

I would therefore advance for your consideration this third principle, viz., that, so far as possible, isolationism in professional training practices should be replaced by a system whereby the various professional groups that are to be welded into a public health team should be trained as a group with an understanding of each other's problems, approaches and basic philosophy. I believe that this coordinated training can further be carried to the point where, to a limited degree, certain basic courses can be taught to the group as a whole without interfering with the opportunity for each type of professional worker to enrich his knowledge within his field of specialization. If this can be accomplished, I believe we shall see not only a more harmonious but also a more efficient team of public health workers.

The school of public health does not, however, discharge itself of all potential teaching responsibilities by the training of suitable professional personnel. There is need for recognizing the importance of developing sound public appreciation and understanding of health. Too often have we acted as though community health were a matter of concern only to the professional group and forgotten that we are but servants of the public whose health is being safeguarded. We are not dealing with a problem of mere medical health, engineering health, nursing health or any other kind of specialized health, but rather with public health, which means the health of the masses. It is the public that has a primary interest in its health and to which we must turn for the funds and support with which to carry out the entire program. A public health program can be little better than the intelligent support that it receives. It is therefore the responsibility of our universities to develop sound and informed public opinion. The schools of public health constitute that part of the educational system that is best informed on such matters. It should be expected therefore that the schools would take an active lead in the development of academic programs which have as their objectives the creation of a strong consumer demand for health based on public appreciation of its value and potential accomplishments.

I realize that the concept of professional training and the role of the school of public health that I have presented here departs quite radically from the traditional pattern held in some circles, and that there are those who will differ violently with some of the foregoing suggestions. Some will also question

the propriety of discussing such suggestions before a group of this character. I cannot forget, however, that under our respective forms of government the states and provinces represent the ultimate repositories of public health authority and that you are therefore the group which more than any other is responsible for the health and well-being of our two countries. You are ultimately responsible for the employment of personnel and are therefore vitally concerned with the qualifications which they possess. You are equally concerned with the development of sound public support for public health. It is therefore logical that you should give serious consideration to the question of the direction in which public health training is developing. The post-war reconstruction period is already witnessing a quickened demand for enlargement of our public health program. May I leave with you the suggestion that elimination of educational isolationism and broadening of the academic responsibilities of our schools of public health are not only desirable but also essential if our health departments of tomorrow are to be able to meet their expanding obligations to the public.

# The Trend of Modern Sanitation, with Special Emphasis on Standards for Restaurant Sanitation

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ANY consideration of the trend in modern sanitation must take into account certain well established principles, all of which are well known to those in this field. These are that this public health activity embraces many phases of environmental conditions, that the problems vary in different parts of the country, that this is a fundamental requirement of modern living, and that the sanitarian must have a very direct contact with the public. This duty calls for effective training of the official, combined with an aptitude for good public relations. He must deal with personal troubles and complaints, many of which are not directly related to public health, but which are all important to the person making the complaint. It behooves the administrator to chart a course in dealing with these problems which will produce the most effective results for the time and effort expended.

## *What Should Be Included?*

The public health official today must be prepared to deal with many problems in the field of sanitation. They may be grouped into two classes, the first resulting from his responsibility for routine supervision and examination of all matters which endanger health. These are the less likely to be drawn to his attention by the public. The second group includes all conditions upon which complaints are likely to be made. They may be only very indirectly related to the spread of disease, such as odors, noise, dust, smoke. A pertinent question and decision to be made relates to the priority to be given to these different matters and what should be included in the program at all.

In general, the public will consider that anything which causes discomfort or annoyance is a menace to health, and that it should be a responsibility of the health officer. The first group, which is all-important in health protection, includes such matters as water supply, waste disposal, food control, swimming, recreation, and housing. They may cause the spread of disease if not given adequate supervision. In contrast to this, the second group may be most annoying, but they do not spread disease in the fashion that an infection does.

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### *What Must Be the Objectives?*

It is well for the sanitarian and the health officer to visualize clearly an objective for sanitary programs as they are carried on today. It must be apparent that the public looks to the health officer more than to any other office to solve many of his personal problems. He does this because the health officer is convenient and well known, it costs nothing, and his lack of knowledge forces him to imagine that many factors are likely to be injurious to his health. If the health officer accepts all these requests, he may rightfully be accused of spending public time and funds on matters of private concern or not in the health field.

Programs of environmental sanitation should be directed to the protection of the individual and the community against disease. That is the basic requirement. Any matter which may directly jeopardize the health of the citizen should be included, but mere annoyances, resulting so often from neighbors' quarrels over trifling conditions, should not be included in the strictly sanitary or public health program, or at least they should not monopolize time required for more important matters. The difficulty is to know where to draw the line between public health nuisances and annoyances. What affects public health? Should the health department be expected to deal with all subjects causing annoyance, or should they be referred to some other municipal department such as the police, the welfare officer, the engineer or the council?

It must be recognized that many complaints of no public health significance are being dealt with by health offices. There may be justification in doing this if personnel and funds are available, and especially where no other department is better equipped for this service. At least it may create better public relations. The health officer must accordingly decide whether he is to deal with strictly public health matters only or whether he is to adjust other problems which may concern individual welfare. It may be argued, in the extreme, that almost everything has some effect on health, but in general there must be some reasonably direct relationship with health before a complaint justifies action under this program.

### *Trends in Administration*

In this province, as elsewhere, the trend in public health administration is towards health units where populations make possible the employment of full-time and adequately trained personnel. This means a new opportunity for effective programs in sanitation. It will be possible to devote more time and expert supervision to those matters which are related to safety and the well-being of all. The health units have demonstrated already that they can exercise the needed attention to the solution of these problems of environmental sanitation.

### *Qualifications of Sanitary Inspectors*

The advent of full-time personnel for public health work, whether in health units or urban centres, has called for specialized training in all branches and professions. The principle is now firmly established that anyone, whether doctor, dentist, engineer, chemist, veterinarian, nurse or sanitarian, who wishes to enter the public health field must be trained in that branch in which he or she wishes to serve. Back of this is a recognition that public health is a specialized field, and

that the most effective service must be given to the public. Specialized courses are available for all under conditions which make this training attractive, and as free as possible from being a burden on the individual.

There are many advantages in specialized training. It gives knowledge in the trainee's own branch, but equally important is the fact that it broadens the knowledge in all phases of public health, and it clearly indicates the importance of inter-relationship and inter-dependence of all groups in this field. To do effective work each specialized worker must cooperate with the others. Public health today is much too broad for anyone to master all the details, and it is only by working together that effective results can be assured.

The sanitary inspector or sanitarian, like the other members of the public health team, is a specialist, who must work closely with the others. He must deal with a variety of problems, and for this functioning he is offered a course of instruction. It is important that he understand the mode of the spread of disease, as well as those conditions which may give rise to complaints. His technical knowledge should be thorough.

Beyond the technical side of the sanitarian are the personal qualifications of this man. He will be a representative of the health organization of which he forms a part. He must meet the public daily, and the manner in which he does this will determine, in no small measure, the public relations of the health body. The day when the health official's main function was police duty has long passed. No organization in public service can function effectively if it creates poor public relations. This problem is particularly applicable to the field of sanitation because environmental problems are numerous and basic to the welfare of the individual. It is highly important that the sanitary inspector not only strive to solve complaints and problems effectively, but also that he engender good will and service in so doing.

#### *Problems of the Sanitary Inspector*

The problems of the sanitary inspector, working under the health officer, will fall into the two classes of environmental sanitation referred to previously—the one having a direct bearing on the prevention of disease, and the other related to well-being and freedom from annoyances. It will be the responsibility of the health agency to supervise this first group without request from the individual. Regular inspections and checks will be essential, with use being made of laboratory facilities and provincial assistance. No detailed program for supervision of these is to be set up here, but it may suffice to say that if this supervision is to be effective the examinations must be carried out frequently, and much more so than generally has been feasible with part-time health organizations.

The second group of problems, of those conditions which commonly give rise to complaints, involve such matters as drainage, odors, refuse accumulations, dust, noise, smoke, insects, fumes, appearances and other factors of comfort or aesthetics. While these may be only indirectly related to health, they may become very objectionable to sensitive residents of a community. Some may exert a deteriorating effect on property values. Appearances are often involved in these complaints. If the health organization adopts the policy of dealing with these complaints, and it is difficult to avoid doing something, it is possible to bring

about corrections in many instances. In others, even though they may be distressing to the individual, they cannot be corrected under public health legislation; that is, they cannot be enforced through the courts. Here is a situation where tact and good public relations may do much to induce the offending party to voluntarily adopt remedial measures.

### *Legislative Authority*

There is much legislation in the Province of Ontario which applies to sanitation. The Public Health Act and the regulations are the chief sources of authority. To these must be added the following:

- (1) The Municipal Act—various sections but chiefly those in which there is authorization for passing of municipal by-laws.
- (2) The Public Utilities Act.
- (3) Food Legislation including:
  - (a) The Milk and Cream Act.
  - (b) The Food and Drugs Act.
  - (c) Soft Drink Regulations.
  - (d) Frosted Food Locker Regulations.
  - (e) Regulations on Eating Establishments (new).
  - (f) Milk Pasteurization Regulations.
- (4) The Cemetery Act and Regulations.
- (5) Summer Camp Regulations.
- (6) Tourist Camp Regulations of the Department of Travel and Publicity.
- (7) Plumbing Regulations (in preparation).

These legislative Acts must be understood by the administrator if he is to be able to apply them to advantage.

### *Nuisances*

Nuisances require a good deal of the time of the sanitarian. The procedure for dealing with these is clearly set out in The Public Health Act but the primary problem is a determination of what constitutes a nuisance under the Public Health Act. The Act states "anything which is or may become injurious or dangerous to public health." If indirect effects are included, then almost anything may come in this category. It is felt that anything to be included under nuisances should be somewhat directly associated with public health. Otherwise an unjustified amount of time will be spent on problems the solution of which may not be enforceable if action is to be taken in court.

### *Food Sanitation*

Food sanitation, on a provincial level, is receiving increasing attention. The trend is towards intensified activity in this field, the need for which is all too obvious. The problem is a difficult one, in that it is related to the personnel and their practices. It requires continuous and persistent effort. Education is an important factor.

Recognition of the trend in food sanitation may be seen in the recent amendment to the Public Health Act of this province. Authority is now given to the Department of Health to set up regulations for the control of all places in which food is handled or processed. This is wide in scope and the purpose is to intro-

duce standards on a provincial basis rather than varying these from municipality to municipality. These will be minimum requirements only. The standards have been prepared and regulations are now being drafted. A discussion of these standards may reveal the thinking or trends in this field.

#### *Licences*

The provincial regulations do not involve licences except those which may be issued by the municipality. It is hoped that the municipalities will ensure control by the issue of licences. Action on the part of the health officer to restrict the operation of an unsatisfactory eating establishment should be possible and it is hoped will be included.

#### *Construction of Buildings and Equipment*

The requirements in respect to construction are general, and must be of a kind which will be satisfactory for the work intended. The same general conditions apply to the equipment and include refrigeration, washrooms, water supply, etc.

#### *Maintenance of Eating Establishments*

The maintenance of eating establishments will include such matters as restriction of sleeping facilities where food is handled, serving of milk from the original container, protection of food by covering, maintenance of the refrigerator at 50°F. or less, sanitary handling of garbage, and other related factors.

#### *Personnel*

The personnel shall be free from disease and they must satisfy the medical officer of health as to freedom from disease, as well as undergoing any examination or tests he may require.

#### *Cleaning of Utensils*

Very considerable attention is required for the cleansing and disinfection of utensils. The requirements, in general, involve washing with any suitable detergent followed by disinfection by one of the following methods:

- (a) Hot water at 170°F. or more for two minutes.
- (b) Chlorine compounds at 100 p.p.m. available chlorine for two minutes.
- (c) Quaternary ammonium compounds at 200 p.p.m. for two minutes.
- (d) Any other compound which may be found to be effective.

#### *Education of Personnel*

Emphasis must be placed on training of food handlers in sanitation. Without this, it is certain that no program will reach its objective. Much work has been done on this already, and it will be incumbent on health bodies to further this as much as possible.

The food sanitation program today is at an interesting stage, and there will be an effort made to improve the level of this throughout the province, by the enforcement of standards and by education of personnel.

# Symposium on Population

## 2. POPULATION PROBLEMS IN PUBLIC HEALTH—AT THE PROVINCIAL LEVEL

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**P**UBLIC health as we workers know it today is not static. It can properly be called a movement. Originally it commenced in the attempted control of communicable disease through isolation and quarantine, and following this came the development of environmental sanitation, the evolution of laboratory techniques and services, child and maternal hygiene, school medical services and the initiation of tuberculosis and venereal disease control programs, all finally becoming organized into a generalized public health program. Emerging today as the greatest challenge to our public health movement are the medical-social problems of the people of our provinces.

Throughout the evolution of public health the problems of population analysis have arisen corresponding in importance and variety to the control measures being effected. Statistics are one of the principal tools in the sound administration of public health and many studies which are made are based on the populations involved. We interpret the success of our communicable disease control in terms of rates per thousand population or immunizations done. We measure in part the effectiveness of certain of our sanitation procedures by calculating the number of people safeguarded by pasteurization of milk. Syphilis and gonorrhoea morbidity reporting is calculated in terms of exposed population, that is, broken down by age, sex, and marital status, in order to find where the problem lies. Hence, population data used by a provincial health department become greater in scope and application as the public health program expands.

### PROBLEMS IN VITAL STATISTICS

Compared to an older and more settled country, Canada's population distribution has many distortions from that normally observed. This is especially true in British Columbia, where natural increase has played a relatively minor part in the demographic growth of the Province. Since 1931

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*Part 1, "A Survey of Quebec City Families", by Jean C. Falardeau, was published in the November issue; and Part 3, "Mortality Trends in Public Health in Canada", by H. Lukin Robinson, will appear in the February number.*



there has been an increase in population of over 300,000, or 44 per cent. Of this increase, 27 per cent was due to the excess of births over deaths. Immigration to the province has come in waves, depending largely on economic opportunity. It reached its greatest proportions during the war and the immediate postwar period. There has also been a consistent underlying trend in immigration to the Province, especially from the Prairie Provinces, of older people coming to a milder climate either to retire or for health reasons. Consequently the Province has a relatively high death rate in comparison to the rest of the provinces, and especially is this true of the deaths from degenerative causes, such as cardio-vascular-renal conditions, cancer, etc. As a matter of record, in 1944 British Columbia had the highest crude cancer mortality rate in the Dominion. However, when translated into age-specific mortality, British Columbia's position was found to be much more favorable. Because of the exceptional age distribution of the population, a totally distorted picture is obtained if crude rates by cause of death alone are used.

The racial distribution of the population of the province can be of major significance in the vital statistics picture. The published vital statistics reports of the majority of the provinces present tabulations of Indian mortality separate from the figures for the total population. As the bulk of the Indians in Canada are "Indians within the meaning of the 'Indian Act'" they are accordingly wards of the Federal Government and hence are not directly a responsibility of a Provincial health department. In British Columbia, in 1945, it was found that the tuberculosis mortality rate for Indians living on Reserves was over eleven times as high as the rate for the population of the rest of the Province. When translated into terms of age and sex distribution the results become startling. The greatest number occurs under thirty-five years of age. Similarly, a segregation of Indian deaths of children dying under one year shows that the infant mortality rate is over four times that for the rest of the population. Maternal mortality is also more than double the rate for the rest of the population.

Mortality amongst Orientals also shows certain peculiarities. The death rate for tuberculosis amongst the Chinese in British Columbia was 303 per 100,000 in 1946, or almost six times as high as the rate for the whole population. On the other hand, Japanese mortality was 171 per 100,000. This was a very considerable increase over the rate for many years previous. The explanation again lies in the population figures. The Japanese in apparent good health have for the most part been distributed across the Dominion and those having tuberculosis have been detained in the Province for treatment. The number of Japanese resident in the Province has dropped from 19,000 in 1942 to approximately 7,000 at the present time. Previously there was practically an equal number of male and female Japanese in the Province while, on the other hand, there was a great preponderance of male Chinese. This latter group has shown a definitely ageing trend as there has been virtually no Chinese immigration for many years. As many of these older men are anxious to return to China, either to retire or to die, figures must be obtained from time to time from the immigration authorities showing the movement of Chinese back to their homeland.



The foregoing illustrations show that the racial distribution of the population, especially by age and sex, must be considered in assessing the mortality trends within a province. In other words, a more detailed breakdown of the data, and a careful examination thereof, is necessary before conclusions should be made as to either the effectiveness or the direction which a public health program should take.

One of the most important of all population groups comprises those persons employed in industry. A significant proportion of accidental deaths occurs from industrial causes. The problem facing the provincial vital statistician is twofold in relation to the proper treatment of these deaths, in order to yield the maximum results from preventive efforts. The first is to obtain as much relative data as possible. For example, the ordinary registration of deaths does not give the details of the accident. It is therefore frequently necessary to go back to the coroner's report, the Workmen's Compensation Board files, and even to the employers before a complete picture can be obtained. Then again, an appreciation should be gained as to what is happening in the particular industry. For example, it was noted in a study made in British Columbia in 1942 (1) that the number of deaths per one billion board feet of timber logged increased at a higher rate than the increase in production. On the other hand, the same study showed that deaths in the ore-mining industry in terms of one million tons of ore mined dropped as production increased. It was noticed also that the number of fatalities per 1,000 persons employed over a six-year period tended to increase in the logging industry and decrease in the metal-mining industry. By the use of such correlated data the investigator is led to ask many questions intended to lead to eventual reduction of the hazards encountered by this group of our population.

Secondly, these facts must be presented to those directing the public health program in a manner that will stimulate their sense of responsibility towards the prevention of industrial accidents. To do this the public health statistician has to evaluate the fatal accidents in any one industry against the total of all industrial accidents, and then endeavour to point out their relationship to all other accidental deaths occurring in the home or in public places. Statistics on the economic loss through accident fatalities in industry should not be neglected in the evaluation of the results obtained. Many agencies, both official and unofficial, are interested in preventing accidents and deaths in industry. They will gladly use all the pertinent published facts we are able to present. This is a field which to date has not been adequately developed by provincial statisticians. It constitutes a real challenge to all of us.

The principal point to be made in connection with the population problems confronting the vital statistician in a provincial health department is for him to understand that the mortality rate which he computes or the trends which he portrays are not necessarily the accurate story of what has happened to the persons whose deaths he has tabulated. In order that appropriate action may be taken by the health department to reduce the incidence of fatalities, the statistician must present as clearly as possible the inter-related population factors, only a few of which have been mentioned so far. Proper analysis

requires a broad background of demographic information before it can be of full value.

#### LOCAL HEALTH SERVICES

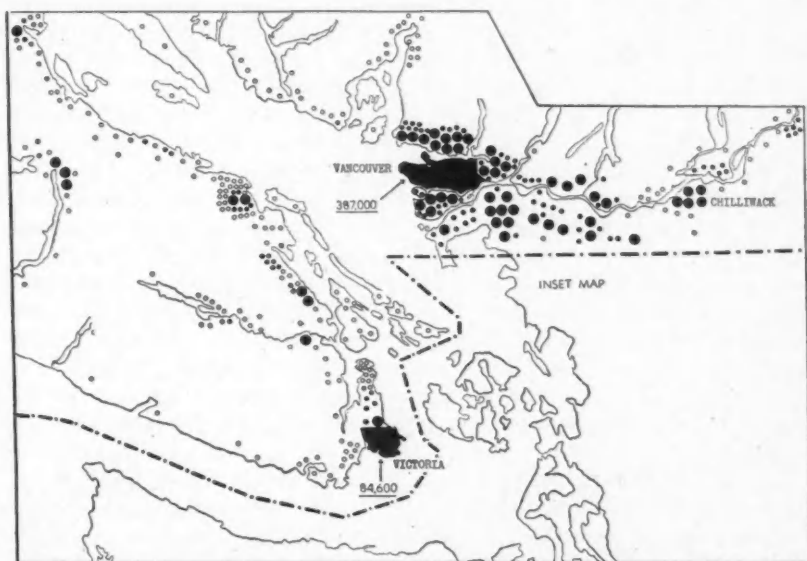
The population problems which arise in connection with local health services are most diverse and interesting. They range from the simplest form of estimation to the ramifications implicit in fully utilized small-area statistics. Very often the first problem which arises is the proper definition of the boundaries of the areas under consideration. Frequently so-called "Board of Trade" population estimates are grossly in error as they often include overlapping parts of an adjacent area in order to boost the total. It has been our experience that the most accurate basis for population statistics is the census. Each census enumerator is given a clearly defined area of which he is to enumerate the people. Through the courtesy of the Director of the Census Branch of the Dominion Bureau of Statistics we have obtained the descriptions of the enumeration areas, together with the population count for the last two decennial censuses. Account is taken of the fact that the census is taken on a "de jure" basis; that is, all persons are enumerated at their permanent place of residence. The most frequent use of the census-enumeration areas has been to find out the population of districts or areas not specifically listed as census divisions or subdivisions. A very good example of the importance of these census data arose after the findings of the Royal Commission on Education in British Columbia which resulted in the consolidation of some seven-hundred-odd school districts into seventy-four school areas in April, 1946. The boundaries of these school areas followed natural boundaries, only a part of which were coincident with the boundaries of the census subdivisions. These school boundaries will, in all probability, remain constant as the rolls for school taxation purposes are now being made from them. Because school medical health services are integrated into the general public health program of the Provincial Health Department of British Columbia, existing health-unit boundaries were redrawn and proposed popular boundaries drafted to include several school areas within each health unit.

In defining health-unit boundaries in a province like British Columbia, where so much of the area is mountain, lake and stream, many factors must be considered. First, there are the standards set forth in "Local Health Units for the Nation" (2), wherein it is stated that a health unit should ordinarily have a minimum coverage of fifty thousand persons and that such a health unit should have:

- (a) One full-time professionally trained and experienced medical officer of health.
- (b) One full-time public health sanitary engineer.
- (c) One sanitarian of a non-professional grade.
- (d) Ten public health nurses.
- (e) Three clerks.

While this standard was kept in mind, yet it was necessary to take other factors into account, particularly the nature of the terrain. For example, in the Fraser Canyon or Kootenay areas, public health nurses frequently have to

drive considerable distances between scattered areas of settlement situated within long mountain valleys. During the winter travel conditions are difficult. Hence the location of the centre of operation for public health nurses has to be carefully planned, taking into account also the nature of the community, whether it is a mining community or whether it is farming or logging, whichever is the predominant occupation of the people. In other words, a good knowledge of local conditions is essential to the successful definition of effective health-unit boundaries.



One of the steps taken in planning the sixteen health units of the province was to make a population-distribution map on a standard scale capable of being superimposed on road maps, census division and subdivision maps, and others showing administrative units of government. Counties are of importance as judicial districts only. The problem was not easy to solve as there is such a contrast between the populations of the interior villages and the third largest city of the Dominion, Vancouver and its environs. The two largest metropolitan areas were shown in an inset map and organized units of local government throughout the rest of the Province were shown in two sizes of solid black circles, 2,500 and 250 persons, respectively. Rural population, i.e. the people living in unorganized territory, were grouped into concentrations of 250. Map 1, the inset map, is reproduced here to show the method used. From the map of the whole Province it was interesting to observe how the population on the mainland was scattered along the rivers, with the southern part of the Province closest to the United States border most settled. After taking these factors into account, as well as others not directly related to population, it became evident that the health units of the province should, on

the average, cover about half the population recommended in the aforementioned report.

Closely allied to the distribution of the population within a health unit is its density. It is almost axiomatic that where the population concentration is the highest, the number of public health problems is greatest. This is especially true in the field of environmental sanitation and communicable disease. Recent studies have shown, for example, that Vancouver City, on a population basis, has a greater proportion of tuberculosis and venereal disease cases than the rest of the Province. It has recently been estimated that the heavily populated city of Vancouver has 7,360 persons to the square mile. This is indeed a contrast to the average health unit in the interior part of the Province, where 25,000 people may occupy several thousand square miles. It is interesting to note that almost 50 per cent of the population of the Province is concentrated in the metropolitan areas of Vancouver and Victoria. While this concentration of population adds to problems in public health administration, on the one hand, on the other it permits reduction in overall per caput costs if the service is efficiently organized. It was recently estimated that Vancouver City obtained comparable public health services at approximately two-thirds of the average cost as it occurs in the rest of the Province. Apart from this dollars-and-cents advantage, Vancouver City and the rest of the municipalities comprising the Metropolitan Area benefit in the availability, diversity, and quality of specialists, diagnostic treatment and other medical services. In other words, there is a qualitative as well as a quantitative advantage accruing to the centres of largest population concentration.

In 1946, a new plan of health-unit financing was developed which recognized this inequality in costs of services and which also removed the former inconsistencies of health-unit financing which had become more and more apparent as time went on. This plan provides for health unit service, outside of the two major centres of population, at a flat rate to the local communities, both organized and unorganized, of 30c per caput. This is the same cost as that charged for public health nursing services in areas not yet served by full-time health units. In other words, under the new arrangement apart from the flat rate of 30c per caput, the remainder of the cost of health unit services is paid by the Department of Health and Welfare. It is interesting to note that the assessments of costs on a per caput basis are based on the following population estimates which are to be adjusted biennially to a figure midway between the current estimate and the estimate two years previously.

1. In organized areas, the population estimates quoted to the Department of Municipal Affairs by the local council to be used.
2. In unorganized territory, the population estimates made by the Provincial Division of Vital Statistics to be used.

The reason for the adjustment is to follow the trend of population changes so that if the area's population is growing or decreasing in inter-censal periods the cost to the local area is graduated over the period and hence is more easily borne than if the per caput cost were to change suddenly. The Provincial Division of Vital Statistics has a responsible part in this

scheme of health unit financing, namely, the estimation of intercensal changes in rural population.

The making of local population estimates is not an easy task. While it is undeniable that census data are the basis of a great deal of population data, yet in intercensal years in regions where population is shifting, reasonable estimates "which are probably incorrect show, in most cases, a considerably smaller degree of inaccuracy than the old census records which are surely incorrect" (3). "Reasonable population estimates" are not made easily, as we, like our neighbors to the south, are a nation on wheels. The population is becoming progressively more mobile. Simple arithmetic is seldom the answer. The statisticians must have available a variety of measures, such as the enumeration of voters at the time of the Dominion election, elementary school population, employment figures, natural increase, and a knowledge of local estimates and local conditions, especially economic conditions. A good example is the recent upswing in lumbering. Before the war less than half a dozen sawmills were operating on the northern route of the Canadian National Railway between Prince Rupert and Jasper. Since then the increase has been tenfold or more. Consequently the population of this area has increased tremendously within a very short time. Ration-book figures provided some clue to population changes, but it is unlikely that this source of information will be available for much longer. However, there is one very good source of population information whose potential has not yet been exploited, namely, family-allowance figures. Practically all children in the Dominion under sixteen years of age are registered for family-allowance purposes. Monthly releases are made by the regional office in Victoria, showing the number of applications for family allowance that are received for persons moving into the Province and also the number of transfers out of the Province. These figures on interprovincial migration are valuable, and they could be extended to include movement within the statistical divisions and subdivisions of the Province as well as the organized municipalities.

From family-allowance figures it should also be possible to obtain information on family size, as well as the number of families in an area. Dr. Grant, of The Rockefeller Foundation, emphasized the importance of the family unit in a recent paper (4). The British Medical Association and the Canadian Public Health Association have declared that the family rather than the individual should hereafter be the unit of the general practitioner. The importance of families as a sociological unit of population has been presented by Kurt Pohlen in an article on "Family Hygiene" (5). He emphasizes that the public health nurse carrying out a good generalized program, especially in rural areas, in her visits calls upon the entire family and not upon one or more separate individuals for particular selected health problems. He further points out that in general there are five types of families in regard to their reaction to family hygiene and health education:

- (a) Families which have a good or fair knowledge about family health and usually take care of themselves without being especially instructed at each visit.



- (b) Families which are willing to care for themselves but do not do it in the correct way, due to lack of knowledge about health; they improve when properly instructed.
- (c) Families which are generally willing to care for themselves and co-operate, but lack much in knowledge and sometimes in discipline; they need personal instruction and a follow-up about things they are supposed to do.
- (d) Families which do not care for themselves and lack good co-operation; they need frequent and urgent instruction and a permanent follow-up about things they are supposed to do.
- (e) Families which are extremely non-cooperative and neglect to do their duties, even with the most frequent and urgent instruction; only force makes them "co-operative."

It would appear that this is a field of broad sociological information which is yet to be developed and which should have a very definite value if the data can be collected and analysed while still timely. Often very accurate local population estimates are made by the Municipal Assessor's Office on the basis of house-to-house counts of occupants. This is the case in the City of Vancouver. Again, in small areas, population counts may be taken by such officials as public health nurses, welfare workers, local police, etc. All such population appraisals are valuable. Dr. Valois' paper on population estimates in wartime (6) is a valuable reference. The problem of local population estimates is not one that can be solved by rule of thumb. Rather it involves the gathering of all possible information from many sources, cross-checking as much as possible, and finally using, above all, common sense.

Statistics broken down by small area or census tract are receiving more and more attention. They constitute one of the finest tools of the local public health administrator in metropolitan areas. Statisticians working at the provincial level can do much in this field by having all relevant statistical material originating in areas covered by census tracts classified by the proper census tract. This information can then be correlated with other local data and very valuable results obtained. The problem at present is to stimulate local areas of 1,000 population and over to investigate the values in this new field of statistics. Once officials of such areas are convinced, the provincial health department's responsibility should be to co-operate in every way to assure that all information possible is being recorded for eventual utilization.

#### CONCLUSION

Public health is not static; it is constantly advancing. This means that public health statistics must constantly be extended and improved also, for they serve as an indispensable tool for pointing up and analysing public health problems, as a measure of the effectiveness of past programs, and as a guide in planning and carrying out new ones.

Emerging on the horizon we see at present the development of generalized health insurance and health care for the whole population. The medical-care programs inaugurated in the provinces of Manitoba and Saskatchewan and the Dominion proposals on health insurance (7) have required the most comprehensive statistics covering all aspects of medical care. At the base, we always



find the questions: How many people are there? How old are they? How long have they been there and how long are they likely to stay? What diseases do they suffer and die from? These are questions which the Division of Vital Statistics in each Province, in co-operation with the Dominion Bureau of Statistics, must endeavour to answer, not only for the Province as a whole, but also for each local area and public health unit. At present the necessary statistical data and methods are in many instances lacking. The answers given can only be approximate, based on the best estimates that can be made. But this will not always be so. Public health statistics, as part of public health generally, are not static: they also are constantly advancing.

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# Canadian Journal of Public Health

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## IS THERE A PUBLIC HEALTH PROBLEM ASSOCIATED WITH ALCOHOL?

IS it possible for temperate science to deal objectively with alcohol addiction as a public health problem without stirring up defensive emotional attitudes within the minds of investigators? The question at issue begets many more, but objective answers are few indeed.

Wherein lies the distinction between the rigid, federal control of narcotic addiction and the governmental irresponsibility for alcohol addiction? Is there a significant mortality rate, directly or indirectly, associated with narcotic addiction? Does addiction to the twenty-odd drugs on the narcotic list produce more personality disintegration, more fatal traffic accidents, more pauperism or more readily prepare the way for venereal disease contagion than alcohol addiction? Is the loss of life associated with excessive addiction to alcohol, together with crimes of violence, to be compared with the petty crimes associated with narcotic addictions? Upwards of \$150,000 per annum is spent in Canada on narcotic control. The activities of the enforcement division are largely centred on the crimes of the traffickers. The health and rehabilitation of addicts is still a personal responsibility.

Studies in the control of typhoid, diphtheria, scarlet fever, whooping cough and diseases associated with childbirth have resulted in campaigns reducing the mortality rates in these diseases to almost one-third that of twenty years ago. To the best of our knowledge no objective, scientific analysis of alcohol addiction has ever appeared in this Journal although the relation of this problem to public health must be considerable.

Public health cannot ignore social medicine. It cannot forever remain limited to consideration of the control of communicable disease vectors, drafting housing regulations, improving sewage disposal and enforcing restaurant sanitation. Other agents noxious to the health of society must come within the purview of public health experts.

Trustworthy social or health statistics on alcoholic addiction are simply non-existent. There is no acceptable evidence to show that alcoholics possess a physical allergy to the drug. There is no practical scientific test to determine which individuals in the moderate drinking population may proceed to ad-

diction. There is no machinery for assembling factual data from the criminal, welfare or traffic courts. The statistics of the temperance societies are necessarily incomplete and their conclusions may not be emotionally acceptable to some.

Many responsible health workers, who enjoy a convivial glass, are loath to be associated with the investigation of this problem lest they be dubbed cranks by their confreres. A sense of "objectivity" is subordinated to "subjective" interests. Without a scientific evaluation of the factors involved, the health and welfare presentation of this social and health problem will remain in the hands of the zealots. At Yale University, Dr. E. M. Jellinek has been conducting American studies without loss of face or scientific perspective.

A Canadian study committee might well be set up on a long-term project to determine whether a social health problem exists in the matter of alcohol addiction. Its primary interest might well be an assessment of the morbidity and mortality associated with this socially noxious but pleasant drug. If the public health experts cannot be objective in researches of this nature, to whom can the study be confided with any degree of credence?

J. L. L.

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#### THE DECEMBER ISSUE

**D**UE to a pressmen's strike which affected the majority of publishers in the Toronto area from December 15th to January 19th, the Association was unable to print an issue of the Canadian Journal of Public Health during December. As the days of January passed, the Editorial Board was forced to admit that unprecedented action was necessary, as it would be impossible to publish both a December and a January issue in the remaining days of the month. The December issue was, therefore, reluctantly cancelled.

The index for 1947, which in normal circumstances would have appeared in the December issue, has been included as a supplement to this number. Subscribers who wish to bind their 1947 Journal can obtain reprints of the index from the editorial office for the asking.

## Letter From Great Britain

FRASER BROCKINGTON,  
M.R.C.S., Eng.; L.R.C.P., Lond.; D.P.H.; B. Chir., M.D., Camb.;  
M.A., Camb.; Barrister-at-Law

*County Medical Officer  
Public Health Department, West Riding of Yorkshire  
Wakefield, Yorkshire, England*

TO return for a moment to the problems of administration of the public health services. In my January, 1947, letter some account was given of a scheme of reorganisation in the West Riding of Yorkshire, in which 31 divisions were created in each of which the chief executive officer would combine the functions of medical officer of health of the county district councils within the division (varying from one to five) with those of divisional medical officer for all county council services. It was briefly explained that, roughly speaking, the county district councils were responsible for environmental hygiene and the county council for personal hygiene, and that the effect of the scheme was to make one medical man responsible for the administration of the whole of preventive medicine covering an area of about 50,000 population. This further short note is being given in view of the most valuable account in your October number by Haven Emerson of New York on "The Indispensable Local Health Department". It seems that much the same problems are being encountered over the water and it may, therefore, be of value to you to hear a little more of the matter from our point of view.

Emerson's account has been of great interest to us here in Great Britain

where the subject of what is an effective unit of local government for health and other purposes is generally of topical interest for two special reasons. Firstly, the Local Government Boundary Commission set up by regulation at the end of 1945 (under the Local Government (Boundary Commission) Act, 1945) is about to report back to Parliament. The Commission has had to enquire into all matters of local government boundaries and been empowered to alter any boundary by order, provided this does not take away from a county borough of more than 60,000 population its local government sovereignty nor combine together counties unless the population of the smaller county is less than 100,000. A good deal has been made public in one way or another about what the Commissioners intend to say to Parliament. Secondly, the National Health Service Act, 1946, transferred to county councils the maternity and child welfare functions of the smaller autonomous areas (19 of such councils are to lose their powers to the West Riding County Council on the 5th July next) and in order to safeguard local interests in the case of mothers and young children the Act provided for the issue of regulations for the making of schemes of divisional administration

and it has been anticipated that these might include the delegation of powers to committees in smaller areas.

As regards the Boundary Commission it is thought that the Chief Commissioner, Sir Malcolm Trustram Eve, K.C., is likely to regard "limited" changes in boundaries as an insufficient answer to the problems and may well suggest a fundamental reorganisation to constitute larger areas embracing a number of smaller authorities, to whom might be given some measure of delegation of administration; this would have the effect of ending the present wide variations in size and populations between the 62 county councils and the 83 county borough councils. This is a subject of some complexity but it will suffice to say here that some existing counties and county boroughs are almost absurdly small; the county borough of Canterbury is less than 30,000 and the county of Rutland less than 20,000; there is almost every gradation up to the great cities, such as Birmingham, of more than one million, and the enormous expanse of the West Riding County with 1½ millions. These disparities are clearly out of date in terms of modern requirements and, more serious still, the system in which there are county boroughs of sovereign local government status operating within counties gives rise to a continued internecine warfare between the two types of authority, culminating in a succession of enquiries and private bills in Parliament as each county borough seeks by boundary extensions to improve its size and status. Nevertheless despite the obvious need for reform this suggested new scheme of local government, which has received the title of the "two tier system" as indicated in my

last letter, is likely to be strenuously resisted by many, if not most of the county boroughs, and no doubt some of the smaller counties, who will generally look upon the change as a direct attack upon their self-governing status. If you glance at the map of the West Riding (see January, 1947 letter) you will gain some idea of one practical effect; it might well be that all the areas shewn in black, with the possible exception of Sheffield, Leeds and Bradford, would disappear as self-governing units and a new authority be created to govern the whole, or most, of the county with a new population of three to four millions. No doubt members of parliament from areas likely to lose their autonomy will approach any proposed new legislation, by which alone drastic changes could be made, with a critical eye.

As regards the regulations under the National Health Service Act, a circular has now been issued which says that the Minister does not propose to exercise his power to make regulations now and the circular confines itself generally to the expression of a hope that county councils will establish divisional areas for maternity and child welfare and other services with delegation of some functions to local committees. It will be appreciated that in the West Riding scheme no divisional committees have been established but, of course, the executive head in each division is responsible as medical officer of health to each of his own local councils (for environmental hygiene) and thus there exists a natural strong link with "local interest".

How does this relate to Emerson's "indispensable local health department"? It does so in this way. There are wide differences of opinion here

as to the best size for local administrative health units. Some say that the 50,000 figure adopted in the West Riding (and which appears to be that recommended by Emerson) is too small and alternative figures up to 150,000 and even higher have been suggested. A population of 50,000, in my view, gives a full-time administrative job to anyone who is keen to develop public health on modern lines and at the same time such an area is small enough to permit the medical officer himself to take a personal interest in its many problems. The personal touch is important in health administration. Here, however, we need to go back to the deliberations of the Boundary Commissioners. These areas, whether they be 50,000 or 150,000, may be admirable for local administration; indeed, as is now becoming abundantly clear, they are indispensable and in one form or another must shortly be the pattern in all counties in this country, yet such an area cannot be regarded as satisfactory for an 'all purpose' unit.

In putting forward a figure of 50,000 we here are not thinking of a unit which is to operate entirely under its own jurisdiction. We feel, or at least most of us do, that autonomous units of 50,000, 150,000 or even higher are too small to provide the many specialist facilities in the form of personnel and institutions which are now needed for a modern public health service. Such 'indispensable local health departments' can only be regarded as satisfactory for administrative purposes when acting as a division within a much larger jurisdiction. The larger jurisdiction in the case of the West Riding is  $1\frac{1}{2}$  millions but many hold that it could with advantage be as high

as 5 millions. We have suffered here bitterly from the inability of the small autonomous areas to provide full specialist facilities, for many believe that this failing has been one of the reasons why local government has fallen down over the hospitals and why these institutions have been taken over by the State. No 50,000 unit of administration, with its limited rateable value, can hope to build, equip, staff and administer a proper service of hospitals for general and special purposes; nor indeed maternity homes; nor short-stay residential nurseries, where young children can be cared for while their parents are ill; nor ante and post natal hostels for rest and rehabilitation; nor fully equipped pathological laboratories with the full range of technical staff for modern diagnosis; nor the special schools for handicapped children (the epileptic, the maladjusted, the delicate, the physically handicapped, the educationally subnormal etc., who by their very rarity are happily found in sufficient numbers only in much larger populations approaching the million mark or more); nor can such a small unit appoint paediatricians, psychiatrists, dietitians etc. etc. to ensure that public health is being practised with the full backing of modern specialist medicine.

The course of events in Great Britain which has followed so logically, and so inexorably, from this one fundamental deficiency of local government must be a lesson to all. As I have attempted to shew in previous letters, the removal of the institutions from local government carries the great disadvantage to successful health organisation that it splits curative and preventive medicine. Indeed, there can be little further doubt that if health is to be adminis-



tered in one whole, and only then can this be truly effective, then the main administrative jurisdictions must cover large areas and populations. If the fateful step of separating the administration of curative and preventive medicine is to be avoided in your country, this reflection, which has sadly come to us in Great Britain too late, should provide you with food for careful thought. What I am really trying to say is that modern public health administration should be on a 'two tier' system; only in this way as set out in my last letter can we be sure of applying the full range of specialist medicine to public health and at the same time retain the indispensable advantages of the personal touch in local administration. The West Riding scheme, albeit that it deals only with the county area outside the country boroughs, is an attempt to operate such a policy. To illustrate this point it may be of interest to you to know what the West Riding scheme means in terms of personnel. The staff is set out in the attached schedule in three sections, as follows: (1) Those operating at the divisional level in the 50,000 units comparable, I imagine, with Emerson's "indispensable local health depart-

ments"; (2) those serving larger areas and, therefore, giving part time to a number of divisions; (3) those at county headquarters concerned with the operation of schemes over the whole county. In viewing this staff it should be appreciated that the County Medical Officer and the Divisional Medical Officers act as a team for planning the services, which work is done at monthly meetings and in numerous sub-committees. The staff represents the present state of an expanding service in which further changes are contemplated but not yet sufficiently advanced to justify inclusion. No staff belonging *exclusively* to hospitals, maternity homes or mental deficiency colonies (all of which will be transferred on the 5th July to the Regional Boards) is included, although many, such as the paediatricians, the dietitians, the venereal diseases specialists, and others, according to our modern practice, cover both hospitals and preventive medicine. Staff exclusively employed in day and residential nurseries, ante and post natal hostels and in special schools and hostels for children (institutions which remain with the County Council after the 5th July) have also been omitted.

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE  
PUBLIC HEALTH STAFF

(1) Those working at Divisional level		Total for County
1	Divisional M.O.H.	31
2	Assistant M.O.s (1 being Deputy Div. M.O.)	65
2	Dentists	62
6	County District Sanitary Inspectors	180
10	Health Visitors	317
1	Tuberculosis Visitor	22
7	District Nurses	228
10	Midwives	308
10	Home or Domestic Helps	310
10-15	Clerical personnel (with 1 Senior Lay Officer)	335
5-15	Ambulance Staff†	103

†Ambulance Depots do not confine their service within divisional boundaries for geographical reasons, but the depots fall to the day-to-day administrative care of the Divisional Health Office of the Division in which they lie.

**(2) Those serving larger areas (Number of Divisions served by each shown in brackets)**

3	Paediatricians (Child Health Officers)	(10)
6	Consultant Tuberculosis Officers	(5)
10	Assistant Tuberculosis Officers (Assisted by 2 Radiographers and 5 clerks)	
4	Assistant Venereal Diseases Officers	(8)
6	Refractionists (and corresponding Orthoptists)	(5)
6	Area Dental Officers	(5)
3	Area Superintendent Health Visitors	(10)
3	Area Superintendents of District Nurses	(10)
3	Venereal Diseases Social Workers	(10)
4	Psychiatric Social Workers (Child Guidance)	(8)
10	Mental Deficiency Social Workers	(3)
18	Home Teachers for domiciliary training of mental defectives (proposed)	( $\frac{1}{2}$ )
2	Public Health and Hospital Dietitians	(15)
6	Assistant Speech Therapists	(5)
6	Orthopaedic School Nurses (Physiotherapists)	(5)
9	Food and Drugs Sampling Officers	(3)
4	County Sanitary Inspectors	(8)

A number of part-time specialists are employed to run specialist clinics for orthopaedics and ear, nose and throat conditions in children and for abnormal midwifery; these are generally on the basis of 1 such clinic per division.

**(3) County Headquarters Staff**

1	County M.O.H.*
1	Deputy County M.O.H.*
1	Senior M.O. for Maternity and Child Welfare*
1	Senior M.O. for Tuberculosis
1	Senior M.O. for School Health*
1	Senior M.O. for Venereal Diseases
1	Psychiatrist for Child Guidance
1	Psychologist for Child Guidance
1	Psychiatrist for Mental Deficiency
1	Psychiatrist for Mental Health (Proposed)
1	Radiologist for Mass Radiography
1	Radiographer for Mass Radiography
1	Secretary for Mass Radiography
1	Pathologist
1	Bacteriologist
1	Biochemist
18	Laboratory Technicians
1	Chief Dental Officer
1	Chief Orthodontic Mechanic
2	Assistant Orthodontic Mechanics
1	Superintendent Health Visitor*
3	Non-Medical Supervisors of Midwives
1	Senior Health Visitor for care of Unmarried Mothers and Illegitimate Children
1	Supervisor of Day and Residential Nurseries (also acts as Tutor for training of Nursery Nurses)
1	Superintendent of District Nurses*
1	Senior Speech Therapist
1	Public Analyst
1	Ambulance Officer*
1	Chief Sanitary Inspector
96	Clerical personnel (including 1 Chief Clerk and 8 sectional heads)*

\*Entirely administrative.

## Association News

### THIRTY-SIXTH ANNUAL MEETING CANADIAN PUBLIC HEALTH ASSOCIATION VANCOUVER, MAY 18-20, 1948

**Y**OU will have an opportunity to visit the province of the thunder-bird and the winter flower gardens when the thirty-sixth annual meeting of the Canadian Public Health Association is held in Vancouver, British Columbia, next May.

The meeting will take place in Hotel Vancouver May 18-20. The Executive Council will convene May 17.

Convention rates on the railroads have been applied for and further information on this will be given in a coming issue of the Journal.

Co-hosts will be the public health workers of British Columbia and the Washington State Public Health Association. You are urged to make early plans to combine business and pleasure when you visit Canada's "evergreen playground." There is much to see and do on the Pacific Coast and the scenery speaks eloquently for itself.

Because the tourist industry has become one of British Columbia's biggest businesses, you will have to apply promptly for accommodation for yourself and your families. All applications must be sent to Dr. Stewart Murray, Senior Medical Health Officer, Metropolitan Health Committee, City Hall, Vancouver, B.C. He will need to know if you will be travelling by car, how many people will accompany you, and the type of accommodation you will require. Hotels and auto camps have been contacted but all arrangements should be completed with them two months prior to the conference date.

Please do not ask Dr. Murray to arrange additional accommodation for

you if you are planning to "stay awhile", but instead make applications as a private individual for any period before or after conference dates. The Vancouver Tourist Association, Georgia and Seymour Streets; the Victoria and Vancouver Island Publicity Bureau, Victoria, B.C., P.O. Box 608; and the British Columbia Government Travel Bureau, Victoria, B.C., will be pleased to supply detailed travel information and folders. The Provincial Health Department of British Columbia will also be pleased to provide answers to any questions you may have. A few suggested hotels in Vancouver are: Hotel Vancouver, Hotel Georgia, Hotel Devonshire, Sylvia Court Hotel, Dunsmuir Hotel, and Grosvenor Hotel.

Because Vancouver is within easy transportation distance of Victoria on Vancouver Island (80 miles), and Seattle chief industrial centre of Washington (140 miles), you should attempt to visit these places. Auto ferries operate daily between Vancouver and Victoria and Nanaimo on Vancouver Island and between Victoria and Seattle and Port Angeles in the State of Washington. The C.P.R. steamship triangle tour between Vancouver, Victoria, and Vancouver, Victoria, and Seattle is both interesting and economical.

Short sidetrips may be planned out of and in Vancouver to visit Stanley Park, the University of British Columbia, Grouse Mountain Chalet, Horseshoe Bay and Whytecliffe Lodge on the West Shore's Marine Drive, and the Lulu Island farming area. Inquiries about the short daily boat trips to Bowen Island, Nanaimo, or the

Gulf Islands will prove worthwhile.

Longer auto, rail, or steamship trips out of Vancouver will allow you to visit such places as Harrison Hot Springs, the Okanagan Lakes, and even Alaska, if you are combining your vacation with the conference.

Again, the travel bureaux mentioned above may be consulted for information on Victoria, the capital city and stepping-off point of scenic island highway routes. On C.P.R. lines east of Regina, tickets to Victoria may be purchased for the same price as tickets to Vancouver, and the same situation is true on C.N.R. lines east of Winnipeg.

Suggested Victoria hotels are the following: Empress Hotel, Douglas Hotel, James Bay Hotel, Sussex Hotel, Dominion Hotel, Strathcona Hotel, Windermere Hotel, and the Angela Hotel. There are also numerous auto courts in the Greater Victoria area, the names and locations of which can be obtained from the travel bureaux.

In Victoria you can visit Butchart's Gardens, the Dominion Astrophysical Observatory, the Parliament Buildings, Beacon Hill Park, and the Malahat Look-out. If you are interested in a longer island visit, you may wish to inquire about up-island salt and fresh water fishing, Cathedral Grove, picturesque Malahat Drive which is dotted with auto courts, Forbidden Plateau, and Strathcona Park.

If you are planning to motor to British Columbia through the United States you will find few restrictions on border crossing but should contact the Foreign Exchange Control Board well in advance before leaving.

Whatever your plans, you are sincerely invited by your convention hosts to attend the thirty-sixth annual meeting of the Canadian Public Health Association and visit the Pacific Northwest.

*—British Columbia Department of Health and Welfare.*

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#### MEMBERSHIP IN THE ASSOCIATION

By action of the Executive Council at the annual meeting in Quebec City, 1947, the membership dues have been raised to \$5.00 per annum, commencing January 1, 1948. This fee includes full membership privileges and a year's subscription for the Canadian Journal of Public Health.

Persons who receive a subscription for the Journal through the good graces of their Provincial Government may become members of the Association by the payment of \$2.00, which is the difference between the subscription rate to the Provincial Government and the \$5.00 membership fee.

## Miss Elsie Hickey

**M**ISS ELSIE HICKEY, whose death occurred after a brief illness at Toronto on October ninth, was a pioneer in public health nursing. Her loss will be felt keenly by members of the Canadian Public Health Association as well as by public health nurses throughout the world.

Miss Hickey was born in Trenton, Hastings County, Ontario, where she received her early education. She graduated from the Toronto General Hospital School for Nurses in 1913. In 1915 she joined the nursing staff of the Toronto Board of Health.

It is significant that Miss Hickey was chosen to serve in two great emergencies—the Halifax explosion in 1917 and the Haileybury fire of 1922. Her unselfish, buoyant spirit and capacity to rise to an occasion put her in the forefront in such exigencies.

From 1918 to 1926 she was district superintendent in the Moss Park area where her Irish wit, wide tolerance and human understanding won the respect of the people she served, her colleagues and her associates in the fields of education, social work and religion.

Her next post, supervisor of communicable disease nursing, was held

until April, 1937, when she was appointed director of the Division of Public Health Nursing. Through the anxious years of war, she carried the duties of Chief Nurse Warden for Toronto in the Civilian Defence Organization, in addition to those of an active department where shortage of staff and program developments pressed hard.

As a lecturer to students in public health nursing at the University of Toronto and through planning for and meeting with large numbers of visitors from all parts of the world, Miss Hickey's influence on public health nursing was wide-spread. Of her it may well be said that she lived a full life, that she had high ideals for her profession, and that she laboured consistently to make possible for her co-workers the realization of those ideals.

The Canadian Public Health Association elected Miss Hickey one of its vice-presidents in 1945. From its inception, she gave generously of her time and ability to the Public Health Nursing Section. Her tolerant approach to the discussion of problems and her geniality were valued highly and will be greatly missed. E.L.M.

## ABSTRACTS

### **Staphylococcal Infection Due to Penicillin-Resistant Strains.**

THIS article is of greater general interest than the title would indicate. Whereas in a first series of 200 cultures of *Staph. pyogenes* 25 or 12.5 per cent were penicillin-resistant, in a recent (February to June, 1947) series of 100 cultures, 38 penicillin-resistant strains were recovered. This would indicate a rapid increase in the incidence of *Staph. aureus* strains with a gross resistance to penicillin and this in turn makes a gloomy outlook for the treatment of severe staphylococcal infections. The indiscriminate use of penicillin for minor ailments, always frowned upon, must be strongly condemned.

The resistance of the above cultures was found to be due to the production of penicillinase. The author believes such strains to be "naturally resistant strains which survive by a simple process of selection in penicillin treated infections" rather than sensitive strains which have developed resistance due to contacts with penicillin. The establishment of resistant strains, as for instance in a hospital, poses a serious problem. The author discusses important points in the technique of demonstrating penicillin-sensitive and resistant strains and mixtures of such.

Mary Barber, *Brit. M.J.*, 1947, Nov. 29, p. 863.

### An Inquiry into the Epidemiology of Pemphigus Neonatorum.

THE study reported here was carried out in a large maternity home in Cardiff where, during a two-year period, three outbreaks totalling 107 cases of pemphigus and 21 of staphylococcal conjunctivitis occurred. A single serological type of staphylococcus was responsible for the majority of cases in each outbreak. Phage typing of a number of strains confirmed the serological findings. The responsible organism was isolated from varied sources—air, dust, clothing, bedding and so forth. Most significant, however, was the finding that the mothers of the affected infants were not the source, only 6 out of 15 being found to harbour the same type of staphylococcus. In contrast to this, a large proportion of the nursery staff were found on several occasions to be carrying the same type of staphylococcus as that producing pemphigus in the infants. Swabs of the nursery staff taken at the onset of the third epidemic revealed 37.5 per cent to be nasal carriers of the organism which caused the ensuing outbreak. These results plus the fact that no skin carrier was found who was not also a nasal carrier suggest that the nose is the important source and that a build-up of such carriers occurs before an epidemic occurs.

Prevention becomes, therefore, primarily a matter of hygiene of the hands. Other preventive measures would consist of adequate spacing of beds, proper ventilation and lighting, avoidance of dry sweeping, provision of individual towels etc. for the infants. While treatment of carriers with sulfathiazole was disappointing, better results may be hoped for from the use of calcium penicillin plus sulfathiazole as a snuff.

V. D. Allison and Betty C. Hobbs, *Brit. M.J.*, 1947, July 5, p. 1.

### Case-Finding Factor in Cancer Detection Centres.

AT CANCER detection centres in Maryland 1,709 persons were examined in 9 months and 17 carcinomas found, a prevalence rate of one per cent. This represented 8 carcinomas among 336 males and 9 among 1,373 females. The actual number with cancer would be somewhat greater than this when persons with suggestive symptoms but negative findings were further studied and followed by their private physicians. At least 2 persons were subsequently found to have cancer on follow-up.

In contrast to the expected prevalence rate of 0.56 case among the 336 males and of 4.9 cases among 1,373 females, the actual findings were surprisingly high, being approximately 15 times as great for males and twice for females. A survey of the literature revealed other cancer detection reports as showing a similar experience. The exact reason for this state of affairs may not be known but it suggests that persons presenting themselves to the centres are not all truly well patients as they are supposed to be. This was borne out in this study in which some patients were found to have complaints of which they were aware or unaware. Another reason bringing patients to the clinics was the occurrence of cancer in the immediate family of the examinees.

In the group reported on here, 36 per cent of the men and 51 per cent of the women were referred to their physician because of medical or surgical conditions other than cancer. These miscellaneous discoveries represent an important by-product of the cancer detection service.

H. W. Jones and W. R. Cameron, *J.A.M.A.*, 1947, 135: 964.



